

CLAIMS

What is claimed is:

1. A self-charging organic electroluminescent display module, comprising:
 - a first substrate;
 - 5 at least one solar cell coated on the first substrate;
 - a second substrate; and
 - at least one organic electroluminescent device formed on the second substrate;
 - wherein the solar cell provides necessary electrical energy for the organic electroluminescent device to function and the first substrate, the second
 - 10 substrate, the solar cell, and the organic electroluminescent device are packaged together.
2. The self-charging organic electroluminescent display module of claim 1, wherein the solar cell and the organic electroluminescent device are facing each other and attached on the first substrate and the second substrate, respectively, using a packaging adhesive.
- 15 3. The self-charging organic electroluminescent display module of claim 1, wherein the surface of the first substrate that the solar cell is not on and the surface of the second substrate that the organic electroluminescent device is not on are attached to each other using a packaging adhesive.
- 20 4. The self-charging organic electroluminescent display module of claim 3 further comprising a first cover corresponding to the solar cell and a second cover corresponding to the organic electroluminescent device, wherein a packaging adhesive is employed to combine the first substrate with the first cover and the second substrate with the second cover.

5. The self-charging organic electroluminescent display module of claim 1, wherein the solar cell is an inorganic solar cell.
6. The self-charging organic electroluminescent display module of claim 1, wherein the solar cell is an organic solar cell.
- 5 7. A self-charging organic electroluminescent display module, comprising:
- a common substrate;
- at least one solar cell formed on the common substrate; and
- at least one organic electroluminescent device formed at a different area from the solar cell on the common substrate;
- 10 wherein the solar cell provides necessary electrical power for the organic electroluminescent device to function and the common substrate, the solar cell, and the organic electroluminescent device are packaged together.
8. The self-charging organic electroluminescent display module of claim 7 further comprising a common cover corresponding to the locations of the solar cell and the organic
- 15 electroluminescent device, wherein a packaging adhesive is employed to combine the common substrate and the common cover.
9. The self-charging organic electroluminescent display module of claim 7, wherein the solar cell is an inorganic solar.
10. The self-charging organic electroluminescent display module of claim 7, wherein
- 20 the solar cell is an organic solar.
11. A self-charging organic electroluminescent display module, comprising:
- a common substrate;
- at least one solar cell formed on the common substrate;

an opaque insulating layer formed on the solar cell; and
an organic electroluminescent device formed on the opaque insulating layer;
wherein the solar cell provides necessary electrical power for the organic
electroluminescent device to function and the common substrate, the solar cell,
5 and the organic electroluminescent device are packaged together.

12. The self-charging organic electroluminescent display module of claim 11 further
comprising a common cover corresponding to the locations of the solar cell and the organic
electroluminescent device, wherein a packaging adhesive is employed to combine the
common substrate and the common cover.

10 13. The self-charging organic electroluminescent display module of claim 11, wherein
the solar cell is an inorganic solar.

14. The self-charging organic electroluminescent display module of claim 11, wherein
the solar cell is an organic solar.

15 15. A self-charging organic electroluminescent display module, comprising:
a common substrate;
at least one solar cell formed on a first surface of the common substrate; and
at least one organic electroluminescent device formed on a second surface of
the opaque insulating layer opposite to the first surface;
wherein the solar cell provides necessary electrical power for the organic
electroluminescent device to function and the common substrate, the solar cell,
20 and the organic electroluminescent device are packaged together.

16. The self-charging organic electroluminescent display module of claim 15 further
comprising a first cover corresponding to first surface and a second cover corresponding to
the second surface, and a packaging adhesive is employed to combine the first cover with

the first surface and the second cover with the second surface.

17. The self-charging organic electroluminescent display module of claim 15, wherein the solar cell is an inorganic solar.

18. The self-charging organic electroluminescent display module of claim 15, wherein
5 the solar cell is an organic solar.